



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,764	07/27/2001	Karl-Anton Starz	33766W036	7470

7590 05/05/2004

SMITH, GAMBRELL & RUSSELL, LLP
SUITE 800
1850 M STREET, N.W.
WASHINGTON, DC 20036

EXAMINER

WILLS, MONIQUE M

ART UNIT PAPER NUMBER

1746

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/915,764

Applicant(s)

STARZ ET AL.

Examiner

Wills M Monique

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This Office Action is responsive to the Amendment filed February 18, 2004. The rejection of claims 1-8 as being anticipated by Mussell et al. U.S. Patent 5,882,810, is overcome. Claims 1-8 have been newly rejected under 35 U.S.C. 102(e) as being anticipated by Mizuno et al. U.S. Publication 2001/0024748. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno et al. as applied to claim 1 above, and further in view of Binder et al. U.S. Pub. 2002/0037449.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Mizuno et al. U.S. Publication 2001/0024748.

With respect to claim 1, Mizuno teaches an ink comprising a catalyst, perfluorosulfonic acid ionomer, water and an organic solvent (¶ 11 & 12), the organic solvent is present between 10 and 60 % with respect to water (¶ 11). With respect to

Art Unit: 1746

claim 2, the organic solvent is present between 5 and 25% with respect to water (¶11).

With respect to claim 5, the organic solvent is a dialcohol including ethylene glycol and propylene glycol (¶ 11). With respect to claims 6 & 7, the inc is coated on a polymer electrolyte membrane assembly (¶ 22). The instant claims are anticipated by the prior art set forth. The limitation in claim 1, with respect to the organic solvent having a flash point higher than 100°C, is considered to be an inherent property of the organic solvents set forth in the prior art, because Mizuno employs the same propylene glycol and ethylene glycol solvents set forth by Applicant. According to Applicant's disclosure on page 5, ethylene glycol has flash point of 111°C and propylene glycol has a flash point between 101 and 131 °C. The limitation in claim 3, with respect to the organic solvent comprising a dihydric alcohol, wherein hydroxyl groups are not adjacent to each other, is considered to be an inherent property of the organic solvent as set forth in the prior art, because Mizuno employs the same ethylene glycol and propylene glycol solvents set forth by Applicant. According to Applicant's disclosure bridging pages 4 and 5, ethylene glycol and propylene glycol are exemplary solvents that have two hydroxyl groups in their linear chain that are not adjacent to each other. The limitation in claim 4, with respect to the alcohol having a chain structure having aliphate -CH₂ groups, is considered to be an inherent property of the organic solvent as set forth in the prior art, because Mizuno employs the same ethylene glycol and propylene glycol solvents set forth by Applicant. According to Applicant's disclosure bridging pages 4 & 5, ethylene glycol and propylene glycol

Art Unit: 1746

have aliphate $-CH_2$ groups. The inherency of the solvent properties necessitated by claims 1 & 3-5 are further supported by the fact that "products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In *re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658. In the instant case, Muzino teaches identical organic solvents, therefore the properties required by claims 1, & 3-5 are necessarily present.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno et al. as applied to claim 1 above, and further in view of Binder et al. U.S. Pub. 2002/0037449.

Mizuno teaches an ink coated on a membrane electrode assembly.

Mizuno is silent to a gas distributor substrate coated with the ink.

Binder teaches that it is conventional to coat ink catalyst on gas distributor layers in order to form membrane electrode units.

Art Unit: 1746

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to coat the catalyst ink of Mizuno on a gas distributor layer, because Binder teaches that it is well known to employ ink catalyst coatings on gas distributor layers in fuel cells.

Response to Arguments

Applicant's arguments, filed February 18, 2004 with respect to the rejection of claims 1-8 have been fully considered and are persuasive. The applicant correctly points out that Mussell is not anticipatory because the reference is silent to linear dialcohols. Mussell employs organic solvents such as dipropylene glycol methyl ether which is not a linear dialcohol. Therefore, the rejection of claims 1-7 as being anticipated by Mussell et al. U.S. Patent 5,882,810, is withdrawn.

Conclusions

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

Art Unit: 1746

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Randy Gulakowski, may be reached at 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mw

04/28/04

Bruce Bell
BRUCE F. BELL
PRIMARY EXAMINER
GROUP 1746